

Claims

1 1. A radio communication system comprising a base station and a plurality of
2 mobile stations arranged to communicate therewith using a wide band code division
3 multiple access multiplexing technique, the base station operating at a known sampling
4 rate and having a plurality of P separate antennae each arranged to receive a time
5 displaced signal from each mobile station, a multiplexing system for multiplexing the
6 outputs of the antennae at a rate of P times the sampling rate so that the first sample taken
7 from the output of each of the P antenna occurs in a succession of P first samples
8 followed by the P second samples and so on progressively with subsequent samples, a
9 tapped delay line having $P \times N$ serially connected elements connected to the output of the
10 multiplexer system with each P^{th} element having a tapped output, and a N input
11 correlation means connected to the N outputs of the delay line and operative to cross
12 correlate the outputs from this tapped delay line with a locally generated code signal.

1 2. A system according to Claim 1, wherein the correlation means comprises
2 multiplying means for multiplying the signal arriving at each input with a coefficient
3 determined by said locally generated code, summing means for summing the resultant
4 products for each said inputs, and threshold means for monitoring when each sum
5 exceeds a predetermined threshold to provide a indication of correlation.

1 3. A system according to Claim 1 or to Claim 2, wherein P equals four with two
2 of the four antenna operating in one 120° segment allocated by the base station and the
3 remaining two antenna operating in an adjacent 120° segment allocated by the base
4 station.
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